

Provision of Education and Rehabilitation Support to Children with Special Needs in Regular Classrooms

Presentation of Findings

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Introduction

Securing of education and rehabilitation support for children with special needs in regular classes is a question of their rights, and many schools in Bosnia and Herzegovina are faced with the problem of adjustment of the entire education system to their special educational needs. Individual plans and programs are in focus of education for children with special needs and they are one of the important factors that contribute to the successful inclusion and better success in the regular educational environment. Planning and securing of adequate support to children with special needs through identification of the levels of potentials and learning opportunities for children with different special needs, individual training programs, adequate instructional procedures, and individualized methods of assessment are significant steps to meet the challenges of children with the special educational needs in inclusive classrooms. The main goal of this research is to explore how a school develops individually adapted education for pupils with special needs in cooperation between special needs educators, regular teachers and school administration (Salihović, Dizdarević & Smajić, 2013). An implicit goal is that this study may clarify how to upgrade teachers for their role in development of inclusive educational practices.

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Participants in the study

The sample included consists of 97 subjects divided into four subsamples:

1. **Subsample of pupils with special needs** consisting of 6 pupils with special educational needs (intellectual difficulties, speech-language difficulties, hearing impairment, behavioral disorders, motor disorders and chronic diseases and visual impairment), aged 8-13 years
2. **Sub-samples of pupils without educational difficulties** consisting of 81 pupils in regular classes together with pupils with special educational needs
3. **Subsample of parents of pupils with special educational needs** consisting of 6 parents of pupils with special needs of both genders
4. **Subsample of teachers of pupils with special educational needs** consisting of 4 teachers of both genders, teaching regular class with pupils with special needs. Research results of all 6 case studies are presented through four phases: 1) adaptation of the environment, 2) the collection and sharing of data, 3) focus on the creation and writing of individualized education and rehabilitation programs and 4) implementation and respectively presentation of the results of monitoring.

Results

Adaptation of the environment. Skjørten (2001) states that adjustment of the environment is of great importance for creating the environment that will readily accept and support each pupil. Adaptation of the environment is a question of awareness about the different needs of pupils and knowledge of how to respond to those needs. At this stage, it was important to decide who will participate in a school team, explain the role of individual team members and define their responsibilities and assignments. The team was made up of people who possess the knowledge and skills to identify pupils' abilities, interests and needs and to create a plan that will be consistent with them. The school team consisted of students, parents and school personnel (teacher, pedagogue/psychologist), and experts of appropriate specialty for each case study (educators-rehabilitators, speech and language pathologist and expert for hearing impairments, social pedagogues). Members of this team were very important in making decisions in the process of individualized education and/or rehabilitation planning.

Collecting data. Collecting and processing data about participants consisted of collecting, interpreting and consultation of various data with the aim of adapting the activities required for setting and achieving goals and sub goals for each pupil with special needs. The team collected data through observations of pupils in the classroom and at home, through interviews and informal discussions with parents, teachers and peers; by using tests and scales and through analysis of documentation during the evaluation process.

Each team member who worked with a pupil gave important information on an informal level, about reactions, behavior and success. It should be noted that the consultation during the whole period of research were important in collecting related to instruction and assessment strategies concerning the individual pupils. During this process, parents also gave their perspective of development and learning, and then the former teachers and experts, the pupils themselves, as well as other experts who were consulted (e.g. educator-rehabilitator, speech and language pathologist, expert on hearing impairments and social pedagogue).

Process of support it selves and the observations process provided information about the learning process of the pupil in different situations, including:

- orientation in everyday situations and responding to specific activities
- operation in a group or independently
- learning style
- reaction to different instructional strategies.

These data related to pupils' current level of functioning formed the basis for the determination of specific educational goals and served as basis for assessing their achievement during and at the end of the research period. Test results are presented in a clear and unambiguous manner. All information was presented in a form that was understandable to all team members, especially parents and pupils. The data were synthesized and summarized in a profile for each pupil. Because the profiles included an extensive and a concise description of the pupils' current level of development, it served as a reference for the team in determination of needs and specific performance goals for the Individual Education and Rehabilitation programs. Profiles contained the following information: general information about the pupil, health and socio-economic data, description of academic achievement, adaptive behavior description, description of the pupils' functioning at home, school and with peers, description of learning strategies and motivation, and the opinion of the expert team about the level of support and proposed measures, ending with the names of all participants of the school team, including the director.

Creating and implementing Individual Education and Rehabilitation Program. As the basis for creating Individual Education and Rehabilitation Programs we used the full content of the pupils' profile as described above. Team members also passed their observations of each child's needs. It is very important to mention that the individual education and rehabilitation programs were not only descriptions of every objective for the proximal steps in the pupils' learning process, but also a summary of the most important priorities for long-term learning and future work. In selecting priorities the team discussed the pupils' full development, keeping in mind the following:

- the pupil's values and goals
- parental values and goals for the pupil
- urgency of need
- contribution to the overall achievement and transfer to different program areas
- the important social development
- benefit for other contexts
- duration of instruction and available resources

Selection of strategies. After team members had decided goals and sub goals, discussions were undertaken regarding instructional strategies. By strategies in meant what the teacher needs to do during classroom routines in order to support the set goals and sub goals of the pupils, since well-developed and systematically applied instructional strategies are important components of service and support for children with special needs in the inclusive classroom.

The team proposed strategies for children directly linked with the goals and sub goals previously decided. The current level of academic functioning of the pupil in each program area was described in the program for each of the pupils with special educational needs. This information was contained in the profile that is completed in previous phases and it was the basis for the team planning. Identifying the pupil's current level of success in every area was essential for the appropriate selection of specific objectives, determining methods for adaptation of materials, instructional strategies and assessment procedures as well as assessment of the pupil's progress.

Evaluation of applied individual education and rehabilitation programs. In order to implement the program successfully for each pupil and encourage them to learn, the team for each pupil with special educational needs determined which instructional strategies and assessments to use, as well as the kind of support each pupil needs. The plan was primarily concrete, realistic and linked to the pupil's daily schedule. Effective implementation was a dynamic process

that first of all involved cooperation during assessment of the individual pupil's learning progress, identification of changes of the learner's needs as well as revision and review of the daily plans.

Thus, activities and main objectives in the individual program were transferred to detailed daily plans and linked to the current daily instructions in the classroom. The daily plan for each pupils with special needs is designed to serve as an instructional guide, securing data about the pupil's current educational environment, provide communication among team members, provide for mechanisms that note the student's progress, helping staff to make decisions about the effectiveness of strategies and materials and provide for division of responsibilities. In this way, the pupil's individual learning strategy is explained so that the teacher can adapt the teaching to him or her. If the pupil's progress is very weak or even not at all, the team set themselves the following questions:

- Are the strategies applied as planned? If not, is there some unpredictable problem?
- Are there alternative strategies and resources that may increase the efficiency?
- Do the selected assessment activities support the pupil to achieve sub goals?
- Should sub goals be divided into smaller parts or steps?

Based on such informal discussions, team members decided re-examinations of sub goals, strategies and/or resources continuously instead of continuing with inefficient modes of work until next team meeting.

The team met to formal examination when indicated in the program. The process revision of plans consisted in some cases of return back to previous stages of individual program:

- Collecting additional information
- Revision of the learner's specific goals or sub goals
- Establishing new strategies of instructions and assessment
- Getting help from other experts.

Results of the monitoring. The regular curriculum is adapted to the needs of pupils with special needs who had learning disabilities that have cognitive difficulties in adopting and applying knowledge (**child with intellectual difficulties**), and for the students who had learning disabilities without cognitive delay and only need the methodical modification of curriculum content (**child with speech and language difficulties; child with hearing impairments; child with behavior disorders; child with mobility disorders; child with visual impairment**). Each student was evaluated based on criteria related to individual

characteristics and goals set in the individual educational and rehabilitation program. Dynamic assessment was used as a manner of long-term monitoring and evaluation of programs. On this basis, short-term goals was periodically revised and changed in accordance with the team's decisions when found necessary. The progress of the six case pupils with their different difficulties is shown in the following tables and accompanying discussions.

Characteristics of behavior of pupils with special educational needs in different contexts are presented on the basis of 6 variables for behavior assessment. Initial and final data on the assessment of behavior of the 6 pupils by the teacher, were collected on a sample of 4 teachers who were in their classes (Teacher assessment). Initial and final data on the assessment of behavior were collected on a sample of 6 parents of pupils with special needs- variable (Parent assessment). Self-assessment was performed of the 6 pupils with special needs and the results were displayed by variables (Assessment of student- home, Assessment of student- school, and assessment of student- peers). Acceptance of students with special needs in regular classes was assessed using a sociometric questionnaire on the sample of 81 pupils without disabilities-variable. Table 1 presents initial and final results for all six variables presented in standard values, where estimates of behavior that ranges from 8-12 points are interpreted as average behavior, less than 8 points indicate below average behavior and above 12 indicate above average behavior.

Table 1. The results achieved at the Scale for assessment of behavior-II

	CID		CSLD		CHI		CBD		CMD		CVI	
	I	F	I	F	I	F	I	F	I	F	I	F
Assessment teacher	7	12	11	12	15	15	3	7	10	12	10	11
Assessment parent	7	10	12	12	12	15	8	12	9	10	13	13
Assessment student – home	7	10	10	10	13	12	4	8	15	14	12	11
Assessment student – school	4	8	11	10	14	14	11	12	14	13	10	11
Assessment student – peers	6	8	13	11	12	12	13	13	15	12	10	8
Sociometrics	8	5	6	6	14	14	3	3	10	10	6	3

Legend: I-initial, F-final; CID-child with intellectual difficulties; CSLD-child with speech and language difficulties; CHI-child with hearing impairments; CBD-child with behavior disorders; CMD-child with mobility disorders; CVI-child with visual impairments.

Analysis of the initial assessment of all 6 case studies, indicate that at the beginning of the research period pupils with intellectual disabilities and behavioral disorders were acquired the lowest points, but that assessment of these case pupils in the final changed significantly in their favor in the final measurements. However, the low sociometric position of these students remained topical, which is confirmed by numerous other studies conducted in our country as well as internationally. Kuhne and Wiener (2000) point out that the low position of children with special needs held stable over time for various reasons, and state that the child's position in the group depends, among other things, of success in school, the level of social cognition, friendly and collaborative behavior and physical appearance.

The results in connection with the *examination of adaptive behavior after the application of individual educational and rehabilitation programs* in all 6 case studies show improvements in all areas of the first part of the Adaptive behavior scale, with high scores in some areas over 70 centile indicate a positive result, as shown in Table 2.

Table 2. The result achieved at part I of Scale for assessment of adaptive behavior

		CID		CSLD		CHI		CBD		CMD		CVI	
		I	F	I	F	I	F	I	F	I	F	I	F
1	Independence	20	50	80	90	90	100	10	50	10	60	70	80
2	Physical development	10	10	60	90	10	20	50	70	10	10	40	60
3	Usage of money	30	30	80	80	80	80	70	70	40	50	60	70
4	Communication	30	60	60	70	50	50	10	70	40	60	90	90
5	Numbers and time	40	30	80	80	100	100	60	90	50	70	90	90
6	Activities at household	50	50	80	90	100	100	60	90	40	50	90	90
7	Self-initiative and perseverance	20	40	70	80	40	90	40	60	80	80	50	60
8	Social interaction	60	50	80	90	100	70	20	60	80	80	60	70

Legend: I-initial, F-final; CID-child with intellectual difficulties; CSLD-child with speech and language difficulties; CHI-child with hearing impairments; CBD-child with behavior disorders; CMD-child with mobility disorders; CVI-child with visual impairments.

Table 3. The results achieved in part II of Scale for assessment of adaptive behavior

		CID		CSLD		CHI		CBD		CMD		CVI	
		I	F	I	F	I	F	I	F	I	F	I	F
1.	Tendency to violent behavior and the destruction	90	60	60	50	30	40	100	70	50	60	80	70
2.	Antisocial behavior	90	40	60	30	20	20	100	60	20	30	70	60
3.	Resistance against the authority	70	50	70	30	20	30	100	70	20	30	70	60
4.	Irresponsible behavior	70	40	60	50	40	60	100	50	50	50	60	60
5.	Withdrawn behavior	40	50	80	60	40	50	20	30	40	40	40	50
6.	Stereotyped behavior and mannerism	90	80	90	70	50	60	100	60	80	70	60	60
7.	Inappropriate habits in contact	100	50	70	60	50	60	100	70	60	50	60	70
8.	Unacceptable speech habits	90	80	60	50	50	50	100	80	50	50	60	60
9.	Unacceptable and unusual habits	100	40	80	50	40	50	70	50	50	60	50	60
10.	Behavior directed against himself	100	K	60	70	70	40	100	70	80	60	70	70
11.	Tendency to hyperactive behavior	80	80	90	70	40	50	70	70	60	50	40	50
12.	Psychological disorders	40	30	70	70	10	20	100	70	10	10	80	70
13.	Drug Use	70	70	80	70	70	80	60	70	70	60	70	70

Legend: I-initial, F-final; CID-child with intellectual difficulties; CSLD-child with speech and language difficulties; CHI-child with hearing impairments; CBD-child with behavior disorders; CMD-child with mobility disorders; CVI-child with visual impairments

From Table 2 it is evident that the most significant improvements are noted in the areas of independence, communication, self-initiative, perseverance and social interaction. When we look at the first part of the scale in relation to the activities and habits of everyday life, we can see that the success or progress in one area somehow managed to motivate the child to be successful in the other areas that are covered by this scale. Through observation and direct work with the pupils with special needs and providing of education and rehabilitation support, it was noted that all the pupils liked to initiate contacts in activities and insist on tasks, but usually when the other person working with him or her show them by the approach that he or she is interested in the activities that they are doing. Experience of success in school activities contributed to promotion of confidence for all pupils, which, as is evident from the results of the scale, develop positive results to other areas.

The results in the area of *no-adaptive behavior*, after the application of individual educational program and ensuring of training and rehabilitation support for pupils with special needs in regular schools, also showed improvement in several areas of the AAMD Scale part II, where the result placed in 80 centile or more indicates the presence of undesirable forms of behavior, as shown in Table 3.

Table 3 present behavior displayed at the beginning of the assessment and after application of individual educational and rehabilitation programs, indicates improvements in all variables of II part of AAMD scale for all the pupils. The initial measurement noted the greatest difficulties in pupils with behavior disorders and those with intellectual disabilities, which is understandable given the type and degree of difficulty and level of required support. After the initial assessment for all pupils followed by development and implementation of the individual programs, the pupils began to receive assignments that were adapted to their interests and abilities. This seems to have led to an increase in concentration on the tasks that they are given. Special attention is also devoted to fostering social relationships with peers and closer social environment, which allow positive interaction of pupils with special educational needs and, as a result, contribute to reduction of undesirable behavior.

Because all communication disorders carry the potential to isolate the child from its educational environment, it is important to find appropriate and timely intervention. The area of language ability was monitored using Expressive scale of the Bosnian language, which was adapted for the purposes of this research. The results achieved in testing semantics are presented in Table 4.

Table 4. Results achieved on tasks for testing of semantics

	CID		CSLD		CHI		CBD		CMD		CVI	
	I	F	I	F	I	F	I	F	I	F	I	F
1. Receptive Vocabulary	63,64	81,81	100	100	81,81	100	81,82	100	100	100	90,91	100
2. Expressive Vocabulary	40	50	60	90	30	50	30	50	90	100	50	90
3. Definitions	0	33,33	0	66,66	0	16,67	66,67	66,67	83,33	100	33,33	66,66
4. Categories	50	50	50	50	50	50	50	50	100	100	83,33	100
5. Associations	0	0	50	100	0	0	0	66,66	83,33	100	66,67	83,33
6. Comparison and contrast	0	16,67	0	100	0	0	16,67	33,33	66,66	83,33	16,67	33,33
7. Sequential story (Step A)	100	100	100	100	100	100	100	100	100	100	100	100
8. Sequential story (Step C)	0	50	100	100	100	100	0	100	100	100	0	100
9. Story telling	0	16,67	16,67	100	0	16,67	100	100	100	100	33,33	66,66
10. Explaining procedures	0	33,33	0	100	33,33	66,66	33,33	66,66	83,33	100	33,33	66,66

Legend: I-initial, F-final; CID-child with intellectual difficulties; CSLD-child with speech and language difficulties; CHI-child with hearing impairments; CBD-child with behavior disorders; CMD-child with mobility disorders; CVI-child with visual impairments.

Table 5. Results achieved on tasks for testing of syntax

	CID		CSLD		CHI		CBD		CMD		CVI	
	I	F	I	F	I	F	I	F	I	F	I	F
1. Receptive level of syn. and gram.	75	83,33	83,33	91,67	75	83,33	66,67	91,66	75	91,67	91,67	100
2. General expre. syn. and gram.	25	50	75	100	100	100	100	100	75	100	100	100
3. Sex/ tips words	0	50	75	87,5	0	25	75	75	50	75	50	87,5
4. Possessive pronoun	0	50	80	80	0	50	60	60	60	80	80	100
5. Number	0	20	80	80	20	20	60	80	60	80	60	80
6. Case tips	28,57	50	100	100	28,57	50	85,71	85,71	85,71	100	100	100
7. Comparative and superlative	0	33,33	100	100	100	100	0	66,66	66,66	100	0	100
8. Verb time	44,44	66,66	88,89	100	33,33	44,4	44,44	100	88,89	100	88,89	100
9. Development sentences	0	22,22	50	66,66	22,22	38,89	38,89	44,44	66,66	83,33	83,33	100

Legend: I-initial, F-final; CID-child with intellectual difficulties; CSLD-child with speech and language difficulties; CHI-child with hearing impairments; CBD-child with behavior disorders; CMD-child with mobility disorders; CVI-child with visual impairments.

From the presented results, we can see that there has been a significant improvement for all pupils on the semantic variables under influence of applied programs and provided individualization in work, and with use of specific instructional strategies in the work of teachers. Given that communication skills are the core of educational experience, professional support to the teachers contributed to establish communication goals for all pupils with special needs. The results achieved in the tasks of syntax testing are shown in Table 5.

Similarly, the language test results of syntax in all 6 case studies show significant progress by the pupils with special educational needs in all 9 variables. Considering the fact that communication has many components, which mainly serve to improve the ways children learn about the world around them, children use the knowledge and skills. Thus, considering that the language of experiences is a key to learning and development, provision of speech and language support and similarly support for hearing impairment contributed to the improvement their language skills in collaboration with teachers and parents.

The results of this study confirm similar international studies, where thorough cooperation of different participants in the process of providing support to children with special needs, holistic services, teamwork and respect for the principle of individualization leads to improvement of academic knowledge as well as social skills of these children with their different abilities. Frymier and Gansneder (1989) and Lombardi and colleagues (1991) have pointed out that the entire system of support that are needed for children with disabilities are, in fact, very similar to those for children without difficulties. Cooperation between regular classroom teachers and educators-rehabilitators, speech and language pathologists and social pedagogues is completely necessary and it is of crucial importance for the success of this process. In order to create an inclusive school, all experts or special needs educators need to change their mentality towards of education, including changes in traditional paradigms of teaching and learning, support for teachers and other professionals and the very practice of training specialists.

Conclusion³⁴

In this study, significant emphasis is placed on how to include children with special needs in the social life of the class to ensure active learning. The process of teaching and learning is organized in a way that respect pupils' diversities as cultural background, experiences, learning strategies, speed and rhythm of learning, interests and needs. Teachers in cooperation with a professional multi-disciplinary team as a starting point in teaching focused the attention on the child instead of the regular curriculum. During the process of innovation the whole team had constantly in mind that one of the most important things that is often forgotten is that the default contents of general curricula may have very little or no connection with what is happening in the lives of children or in the world surrounding them, including what causes barriers to learning and participation. Precisely for this reason we changed the attention towards the child. In this research and innovation project a) a team approach was developed, b) a new approach to education of pupils with special educational needs was introduced, c) individualization in the work and the development of individual educational programs was applied, d) and planning, practicing and evaluation of pupils as well as program results are characterized by more coordinated and collaborative ways of functioning of all participants in this process of teaching, learning and development within the regular classroom and school.

This process is actually a holistic approach, "*connective pedagogy*" (Corbett, 2001), supported by meaningful programs, aimed to meet capacity, needs and personal interests of the child. This model of providing educational and rehabilitation support to children with special needs in relation to the theories developed by Vygotsky and Brunner, can be considered as an important component in a) development of strategies and techniques of identifying and removing psychosocial, legal and institutional barriers that exist within regular curriculum (too demanding facilities) as well as lack of readiness of teachers in applying teaching methods that are relevant for children with special needs, and

34 Many researchers have participated in this action research project. In addition to the authors of the three articles (2013; 2014 and current 2015), the following researchers and professional special needs educators are project partners: Dr. Scient Fata Ibralić, Dr. Scient Mirela Duranović, Dr. Scient Husnija Hasanbegović, Dr. Scient Behija Čišić, Sanela Imamović, special educator, Dr. Scient Dževdet Sarajlić and Dr. Scient Lejla Junuzović-Žunić, who has translated the articles to English. The school, its administration and teachers together with parents of pupils with special educational needs and, last but not least, all the pupils in the "case-classes" have all participated in this project.

b) development of inclusive practices through collaboration between special needs educators, regular teachers and school administration as well as parents and the pupils.

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